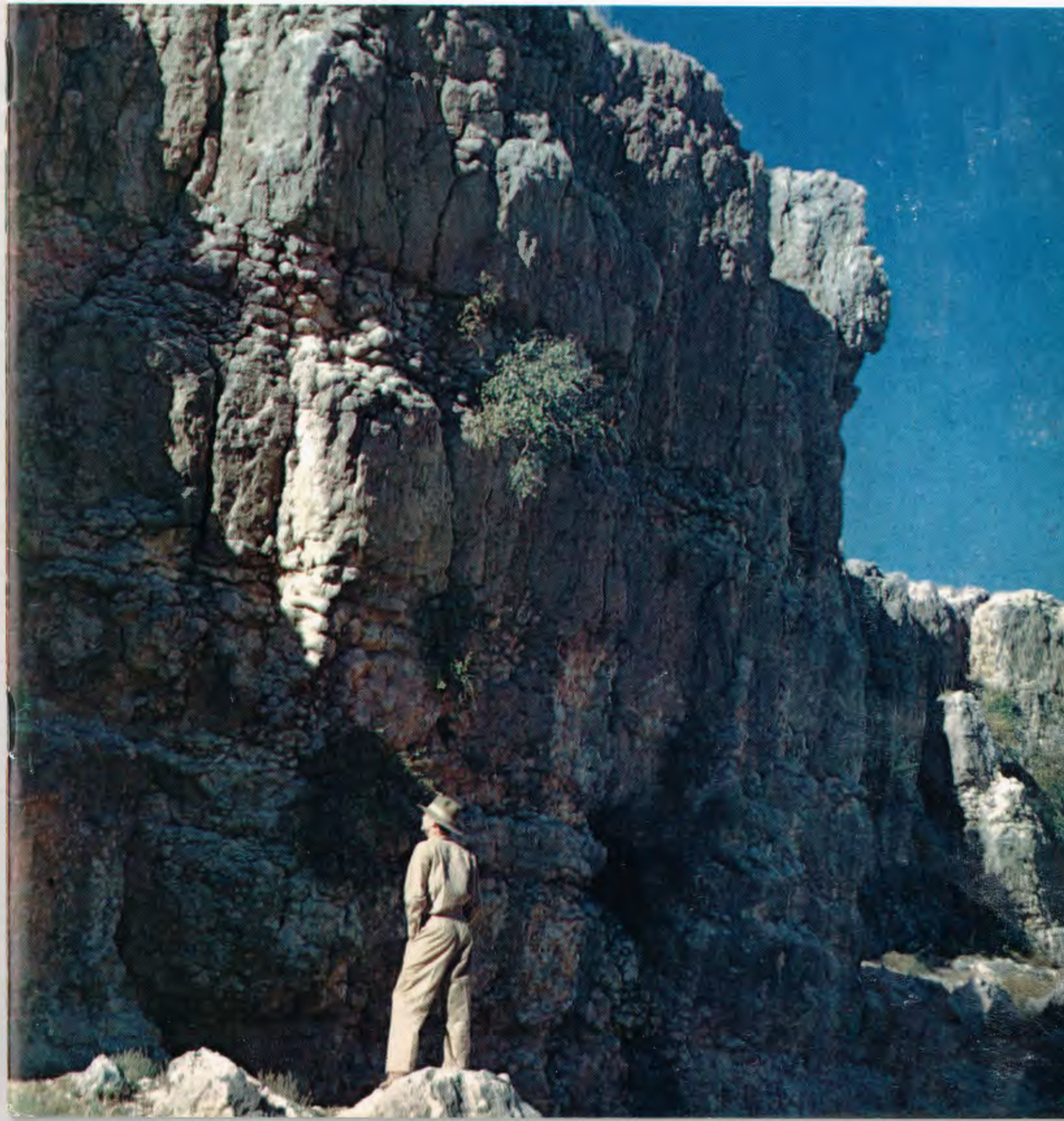




ICI MAGAZINE

AUGUST/SEPTEMBER 1965



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P. C. Allen John Crozier A. S. Irvine W. J. Reader Sidney Rogerson A. G. Woodgate

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John Crozier is chairman and managing director of Scottish Agricultural Industries Ltd. He joined ICI in 1929 as an agricultural representative after studying at Glasgow University and the West of Scotland College of Agriculture. In 1939 he was seconded to the Ministry of Agriculture and spent part of the war years in Malta, helping the food production drive there. He joined SAI in 1944 and was appointed a director in 1949. He is currently president of the Fertilizer Manufacturers Association and vice-convenor of the finance committee of the Church of Scotland. His main relaxation is fishing.

A. S. Irvine is the manager of the Mond Division Information Service. He joined the then Alkali Division in 1934 from Oxford where, in the intervals of rowing, he had read chemistry. He held a variety of jobs in and about the various works of the Alkali Division until 1942, when he was seconded to the Alkali and Chemical Corporation of India to start up and run the new alkali factory at Khewra. On his return to England in 1946 he took charge of the Division's internal communication organisation. His leisure-time activities include Anglo-French relations in local support of the twin-towns movement, gardening (which he hates), watching rowing and keeping a good table.

W. J. Reader, who has been commissioned by ICI to write a history of the Company, is the author of *Life in Victorian England* (published in the Batsford series) and a history of D. Napier & Sons, the aero-engine makers. He worked for Unilever from 1950 until earlier this year in advertising, market research and public relations and assisted in the preparation of a history of Unilever under C. H. Wilson, now professor of modern history at Cambridge.

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T. D. Stevenson is local director of the Mexican branch of ICI (Export) and as such is ICI's senior man in Mexico. A one-time schoolmaster, he joined ICI at Winnington in 1940. From 1955 to 1960 he was seconded to Sosa Texcoco in Mexico and from 1961 to 1963 was technical director of ICI (Pakistan). He was appointed to his present post in September 1963.

A. G. Woodgate is a patrolman at Severnside Works, which he joined in 1961 when it was still a "green fields" site. He is a shop steward, a member of the Works safety committee and of the transport committee, and a former works councillor. His hobby is writing, and as well as writing short stories and articles he is assistant editor of a monthly newspaper that covers the small Gloucestershire town where he lives.

FRONT COVER: *Gorge at Khewra in the Punjab*, by W. C. Walters, a former chairman of ICI (Pakistan)

The *ICI Magazine*, price fourpence, is published every other month. It is printed by The Kynoch Press, Birmingham, and published by Imperial Chemical Industries Limited, Imperial Chemical House, Millbank, London S.W.1 (Victoria 4444). The editor is glad to consider articles and photographs for publication from members of the Company, and payment will be made for those accepted.

Khewra comes of age

by A. S. Irvine



The main gate at Khewra factory

The conception of the Khewra factory goes back to 1934. Then Winnington sent Mr. R. A. Banks, later an ICI Director, and the late Mr Andrew Bennet to search the subcontinent of India for a place where sodium carbonate made on a very small scale could compete successfully with imported soda ash made in British factories twenty to thirty times the size. And such is the effect of scale in heavy chemical manufacture that the most economical spot was 800 miles inland from the port of Karachi, which in its turn is 5500 miles from Mid-Cheshire. So a site was selected at Khewra, District Jhelum, in the Punjab, close to the majority of the major raw materials required by the Solvay ammonia-soda process—salt, limestone, fuel and water.

The water arrived first in the early '40s by a pipeline a dozen miles long from a spring at Watli in the hills above the

factory. It issued from strata just above the salt, and was the closest large non-saline spring available.

And when the water arrived—what a change! From an arid red scrub of sparse, leathery 'Aq and spiky thorn bushes, with five or six varieties of desert bird, the factory site grew into a green jewel, with gum trees fifty feet high and with fifty or sixty different types of birds, many of them being residents.

India, it is said, is the land of scentless flowers and songless birds. At Khewra there are three seasons—a hot dry one, from April to July, a damp steamy one, from July to November, and an "English climate" varying from jolly raw to comfortably warm, from November to April. So at Khewra you have two crops and two sets of flowers: the native crops in the hot seven months and the exotic English flowers and vegetables in the cool five. So

the scent is there, from brash and heavy to faint and delicate; the birds sing and twitter, and one dawn chorus is very much like another a quarter of a world away.

And that was the situation when the first starting-up party arrived from a Britain of Home Guard and air raids in the middle of 1943. The factory was far from complete, and shortages and losses at sea slowed up the work considerably. But the time was spent consolidating the estate and getting the raw material sources taped and staff trained so as to be ready when the last essential piece of apparatus arrived. Then, in 1944, with the punctual arrival of the monsoon on 10th July, the factory was baptised. Over twelve inches of rain fell in two furious hours—it came through the roof and put electrical apparatus out of order.

Fortunately the worst casualty was the passenger hoist, but you must imagine what it was like running up and down eight or ten storeys with the temperature well over 100°F. and a high humidity. Still, work went ahead making vat liquor and amping up the turbine to provide steam for distillation; but it was a chapter of accidents, and it was not until 12th August that the factory had made enough reason-



able vat liquor to start to fill the towers.

The system at Khewra is rather different from the standard English procedure, using monocarbonating towers instead of cleaning towers (as we know them). All went well until the late evening, when dismal thumping sounds and high pressure on the monocarbonating gas blower showed that the bottom of the monocarbonating tower had flooded. All efforts failed to alleviate matters, and to avoid damage the plant was shut down.

When the monocarbonating tower was opened, the starting-up party found that they had made the first-ever crude bicarbonate at Khewra, but in the wrong place! By the time the plant was washed out and restarted it was midnight, so it was not until the morning of 13th August 1944 that they got the tower drawing and bicarbonate going on to the stage.

Somewhere about midday there was enough bicarbonate to warrant starting one machine, and by the evening Khewra was finishing their first soda ash—excellent high test, but rather like brick-dust. All this in temperatures in the low hundreds with humidities in the high nineties!

Thereafter all went more or less smoothly until early 1947, when grave concern was felt for the estate owing to a prolonged water shortage. Rainfall had

been negligible for a considerable period and the flow of Watli water began to wane. The gardens became parched and scarcely enough water was available for factory and domestic needs. The avenue of cypress trees leading to the reservoir/swimming pool withered and died, crops dried up in the blistering June heat. But finally the rains came in July and saved the fruits of seven years' hard labour.

Khewra factory and housing estate seen from the hills of the Salt Range. All around is scrubland, and most supplies for daily use have to be brought in from outside the area

The same year brought an economic crisis to Khewra. After the partition of British India into the independent dominions of India and Pakistan, Khewra found itself in Pakistan; and shortly afterwards the Sikh and Hindu workers, who held Khewra's key jobs, all left. Coal and coke could not be obtained and the situation was far from encouraging. However, it is an ill wind that blows no good, and when the factory was not working the estate had an abundant supply of water and more men available for agricultural work.

Then in August 1948, after the factory had been out of production for twelve months, came a further disaster. All communications were cut off by floods. This kept the factory out of production for another five months, when new English technicians arrived to teach the Pakistanis to make soda ash.

Since then material changes have come about around the factory estate. What has been aptly called the synthetic oasis continues to flourish against a background of barren terrain, pouring forth invigorat-

ing fragrance and prosperity year after year to the inhabitants of the region.

Industrially the Khewra district has made marked progress. The Salt Range, believed to contain only rock salt in economic quantities, has been further exploited, and large stocks of coal have been tapped.

As the Khewra factory moves forward into a period of expansion, so does the surrounding area. Two major sources of power will become available during this year, the first by the extension into the area of the West Pakistan Water and Power Development Authority electrical grid system and the second from the installation of a distribution system for Sui natural gas. Although the availability of additional electrical power will make little difference to the factory, the provision of a supply of high-grade natural gas should prove to be beneficial when used in place of coal at the boiler and finishing plants, where, among other things, working conditions would be greatly improved.

The Partition of 1947 altered the commercial arrangements of what had till then been the Alkali and Chemical Corporation of India—ACCI. In May 1952 a new company called the Khewra Soda Company Limited was formed as a private company. In June 1953 this was converted into a public company, when it took over the assets at Khewra, with a head office in Karachi closely associated with ICI (Pakistan) Ltd.

Besides running the Works, the General Manager of Khewra is the squire. There is a large housing estate attached to the factory which accommodates nearly half the employees, and adds both to the pleasures and responsibilities of the General Manager's job.

There is a house building loan available advanced free of interest to the employees residing within a restricted radius. Employees are paid an amount equalling 20 months' basic wages for constructing houses and the loan is repayable in 100 easy instalments.

The land in and around Khewra is unproductive and saline. All commodities of daily use and most agricultural produce are brought in from outside and are therefore expensive. Wheat, which is the staple diet of the population, is difficult to obtain at times, and its cost in Khewra is sometimes beyond the means of the lowest-paid employees. This difficulty



must have been realised long ago, for the Company sells adequate supplies of wheat to all employees and their dependants at subsidised rates.

There has been a steady drive during the last 21 years to improve health and to combat endemic diseases. There is a well-equipped hospital with two qualified doctors looking after male and female

sections. Khewra has successfully exterminated, to a large extent, malaria and typhoid, once its greatest scourge.

And, of course, there are the long service awards. The awards are made during a simple function presided over by a distinguished visitor, usually a director from the main Board of ICI London. The recipients wear their best native dress, which makes the occasion colourful. They also bring along their children and relatives on such occasions, giving the presentation ceremony a festive appearance.

Out of an average strength around 600, 443 employees have received 15 years' long service awards up to January 1965, which shows that a fairly large majority of workers have been long in the service of the company. Fifty-five awards were made this year by Mr M. J. S. Clapham on 12th January. Mr Clapham also awarded gold watches for the first time to four employees who had completed 25 years' service with the company. By the time this article goes into the press, another six employees will have completed 25 years' service. Khewra had the honour of a similar visit in 1964, when Mr Clapham presented the awards to 85 employees.

The factory from the north-east. Khewra is a man-made oasis, depending for its existence on water piped from a spring in the hills above the factory. (Left) A long service award ceremony at Khewra. Making the presentation is Mr M. J. S. Clapham, ICI Overseas Co-ordination Director. Of the factory strength of around 600, 443 employees have more than 15 years' service and 10 have completed over 25 years

In the last 21 years the silhouette of the factory has remained little changed, although the output is now twice the designed figure. But change is on the way, and new extensions are bursting out of the original buildings.

But Khewra is not resting on its laurels. Besides the alkali extension, other interests are being examined in an ambitious scheme of diversification. A scheme to manufacture textile auxiliaries in Karachi is to go ahead, and other schemes are being hatched in the boardroom on West Wharf. With all this Khewra has grown out of the very name "The Khewra Soda Company." By the time it is 22 it will be facing an exciting future under a new name and with every expectation that the third name will be the luckiest of the lot.

EXPORTING TO CANADA

by P. C. Allen



NINETEEN-SIXTY-SEVEN will see in Canada the centenary of Confederation and of the birth of Canada as a nation. It will be a tremendous year there, with the great Montreal Exposition and many other exhibitions and fairs as part of the celebrations, and it is to be hoped that Britain will play its part by showing that in 1967 the tide has really turned in our trade difficulties with Canada.

The problem of British trade with Canada is a serious one—last year Canada outsold Britain by two to one, the figures being something under £200m. for British sales to Canada and something over £400m. for Canadian sales to Britain—but it is far from insoluble.

For 100 years now the trade between the two countries has shown a favourable balance to Canada and there is nothing in this which calls for anxiety when it is realized that Britain buys many essential raw materials and foodstuffs from Canada.

Among them are wheat and other grains, fish and other foodstuffs, and materials such as copper, nickel, asbestos, aluminium, iron ore, potash, wood pulp and paper.

The problem is not that we buy more from Canada than she buys from us, but that the difference is so great, and has grown so fast in recent years that our deficit with Canada is something like one third of our total national trading deficit. Particularly in the last few years the import of Canadian manufactured goods has been increasing.

The answer as I see it is not to attempt to redress the balance by cutting down or impeding Canadian imports, but to sell more British goods in Canada—and the Committee for Exports to Canada, one of the regional committees of the British National Export Council, has been set up for that purpose and has already taken steps to encourage British exporters.

The Committee, of which I am chair-

man, has a dual function; to create and develop interest at home in exporting to Canada and to encourage and promote activities in Canada which will make Canadians more aware of opportunities for buying British goods, so as to stimulate sales. In this work the Committee is co-operating closely and fruitfully with the British Trade Commissioners in Canada and with the British Canadian Trade Association there.

The Committee is made up of 12 industrial members and two members appointed from Government departments. The industrial members live in different parts of the UK and between them they cover a wide range of British industries and products, so that it can be said that as far as can be achieved with a group of 12, British industry and Britain geographically are well covered.

All the members of the Committee were chosen because of their interests and associations with Canada and each has an

area of Canada in which he takes a special interest. For our purpose, Canada is divided into five natural geographic areas, namely the Atlantic Provinces, Quebec, Ontario, the Prairie Provinces, and British Columbia. Each of these areas has at least two members of the Committee who take a special interest in its problems, while I as chairman take a particular interest in relations with the Canadian Government and the British High Commissioner in Ottawa.

Since it was formed last October the Committee has met five times and will meet once every two months for the remainder of the year. In order to divide up the work, the Committee has separated into two groups—the Capital Goods Group, which under my chairmanship is concerned with such goods as electric generators, motor buses and ships' fittings, and the Consumer Goods Group, which has Sir Ralph Perring as chairman and is concerned with "consumer products" such as furniture, clothing and marmalade.

One of the Committee's activities has been to support the British Government and others in trying to persuade the Canadian Government to make changes in those sections of the Canadian Tariff Law which had the effect of unwittingly discriminating against British importers, and the result of these representations has been that concessions were made in the Canadian Budget in April which went a long way towards removing this British grievance.

The Committee has also published a booklet "Selling to Canada," written by Kenneth McGregor, a former Senior British Trade Commissioner in Ottawa, and aimed at those British manufacturers who do not already sell in Canada or who have not met with success. In this connection, let it be said that the Committee has found that there is no feeling of any desire not to buy British in Canada, but it is undoubtedly true that the Canadian market is a difficult one, with the proximity of the huge industrial potential of the United States and a tendency for tastes and acceptance of goods to have a North American flavour.

Members of the Committee have paid many visits to Canada in the last year and have also visited Chambers of Commerce in Britain to encourage them to send selling missions to Canada. As a result the Birmingham Chamber of Commerce and

Opposite page: The dramatic Toronto skyline and the Queen Elizabeth Dock

Below: Logs destined for newsprint at a lake in Nova Scotia. Bottom: Electric motors being urgently air-freighted to Montreal





*Above: The 500,000th "1100" to be made by BMC, is shipped to Toronto
Right: Grain from Canada being unloaded at the Birkenhead mill of Rank, Hovis, McDougall Ltd.*



Canadian National Railway freight train in the Rockies

Industry is sending a mission in October and the Westminster Chamber is also expected to organize such a visit early in 1966. Discussions have also been held with the Glasgow Chamber of Commerce and it is expected that, either on their own account or in conjunction with the Scottish Chamber, they will also send a mission to Canada early next year.

We have also been able to arrange for the provision of space for the display of British goods and products at the Montreal and Toronto premises of the British Canadian Trade Association. These display areas are being paid for out of BCTA funds and are intended for the special use of firms making their first attempt to enter the Canadian market, and those not already represented by agents. Such firms will be charged no rent, but moderate charges will be paid by those already established in Canada.

A Directory of British Products in the Canadian Market is being prepared in collaboration with the BCTA and a publishing house in Toronto, and will take the form of supplements to specialised trade magazines which are published by this firm.

Yet another of the Committee's activities is its collaboration with the Board of Trade in the "Canextour" plan for October and November of this year, which involves a deep and detailed study of 12 Canadian industries by the Trade Commissioners and an appraisal of the opportunities to sell British goods to them. In November six of the Trade Commissioners will visit the UK to tour the country and to discuss and describe their findings with interested British firms.

These then are the problems and the organization set up to help meet them—but what are the prospects?

Good, we think. Canada has a buoyant, indeed a booming, economy; the population, now close to 20 million, and the standard of living, second only to that of the USA, are both rising. The demand for all kinds of goods is going up fast and a measure of the opportunities for our exports is shown by the Economic Council of Canada's forecast that imports into Canada will rise by over £1000m. from the 1963 level to a total of £3400m. by 1970.

For us in Britain this is a great opportunity—provided that we make what Canada wants and market it vigorously, there is a real desire to buy from us; this was highlighted by the Canadian Government's recent concession to us over tariff valuations.

MR. T. B. CLARK

of Heavy Organic Chemicals Division

Mr. T. B. Clark became Chairman of Heavy Organic Chemicals Division on 1st January 1964. Prior to so doing he had been Joint Managing Director (Commercial) of the Division. He joined ICI in 1934. He is a native of Fife, to which he will sometimes refer, with a blend of sentiment and amusement becoming to a Scotsman, as "The Kingdom." The Pictish Kingdom of Fife, which the Romans found so hard a nut to crack, which lies between the great estuaries of Tay and Forth with the Ochil Hills guarding its back door, is thought to derive its name from the old Frisian word for forest. As befitting one born and bred in Fife, Mr. Clark was sent to St. Andrews, where he read chemistry and played rugger.

He has a rugger man's physique, being broad for his height and stockily built so that despite his six feet, as he will tell you, he has suffered the indignity of being once described as squat. He speaks softly, with the barest hint of his Fife origin detectable in his voice, displays what one feels to be an innately courteous manner and gives an overall impression of deep-seated poise and balance. One feels that not only would he not easily get rattled but that he would have far too good a sense of humour to let himself be carried away by any gusts of temperament.

At the present time, happily, there is little in the general situation of the Division over which he presides to expose him to any such test of his phlegm. The Division is fast expanding and the commercial prospects for it are bright. Petrochemicals, the Division's largest interest, are the most rapidly expanding of any



manufacture in the whole of ICI. One does not, perhaps, hear as much of HOC as of some other Divisions because hardly any of its products are on sale direct to the public and almost its entire output is in the form of intermediates for other Divisions or for outside customers and for export. About half of the Division's total output is absorbed by other Divisions of ICI. Exports are up five-fold over those of 1958, when the Division was formed.

The HOC Division Headquarters are housed in what was once the Billingham Division main offices. None the less it is across the River Tees at Wilton, for the management and servicing of which they are now responsible, that most of HOC's production is carried out. Ensuring that HOC has the necessary capacity to supply the present and future requirements of the other Divisions is something that calls for a high degree of co-ordination and accurate assessment and forecasting. The servicing of a colossal multi-manufacturing site such as Wilton is of itself a major task, quite apart from the production of the raw materials for all ICI's nylon, 'Terylene,' polythene and other plastics. HOC are today the largest producers of plasticiser alcohols in the world, despite intense competition from German, Italian, French, and United States manufacturers.

Runcorn and Hillhouse will be connected with HOC by pipeline and huge quantities of ethylene will be conveyed through this channel, as well as being sent across the North Sea in special refrigerated tank-ships to Rotterdam.

One can sense a high tempo in the Division, and a feeling, which extends all down the line, of enthusiasm and looking to the future.

Asked what he considers a Division Chairman's most important function, Mr. Clark will answer without hesitation that it is to keep the different functions of the organisation in balance. Scarcely less important is the need to see that the lines are kept clear, that people are not held up for decisions, that no one element in the complex is obtaining any unjustified ascendancy over others—an imbalance which, given the nature of human personality and the shifting character of priorities in a complex system of production, can very readily come about.

Mr. Clark believes strongly in the desirability of giving people at an early stage in their careers what he terms "an

idea of the business." That is to say an idea of the Division's total activities, so that they do not become too specifically affected by the viewpoint of a particular department.

He is a great delegator. He believes delegation to be a skill. And by delegation, as he will tell one with a grin, he means delegation *downwards*—and not upwards, when, though much practised in any organisation, it becomes less of a virtue!

Like everyone else, he recognises the importance of getting the right people in the right jobs and of ensuring the right follow-on. He would like to get around and about more than he can, though he makes a point of seeing for himself any new development in the Division's production lines or plants.

Of a morning, when he first arrives, he likes to tackle his correspondence. Then he can turn his attention more freely to the day's appointments. His life, he says, resembles a dictionary—it constantly changes the subject. He holds a Monday-morning meeting, usually followed by lunch, with his Board. There is no rigid agenda, though usually they have advance notice of what will be under discussion. As much as anything else, these meetings are to keep each other informed. One of the big changes which have sprung from the recent reorganisation within ICI is that decisions can now be come to without the need for formal meetings. Besides the Division Board, Mr. Clark has two deputy chairmen to advise and assist him. These of course he sees almost daily.

Besides being Chairman of a Division, Mr. Clark serves as one of the Tees Conservancy Commissioners. He has also been invited to be a member of the recently constituted Northern Economic Planning Council. The appointment lasts for three years and is renewable. This necessitates fairly frequent visits to Newcastle for council meetings. More particularly, he has been elected chairman of the Airport sub-committee of the Council.

Social activities are of course multifarious. He could without difficulty fill every evening of every day of the week with engagements. Visitors are numerous, then there are the usual social activities within the Division itself, such as long service awards, retirements, presentations and the like. Mr. Clark thoroughly enjoys them but they mean that his family and his garden see less of him.

He is, or would like to be, a keen gar-

dener. Essentially an open-air man, his relaxations are nowadays restricted—he injured a knee some years back when playing rugger—to the gentler forms of exercise, such as fishing, swimming (when the chance occurs), walking and gardening.

On holidays, he likes to catch up a little on his reading. All kinds of sport interest him besides his first love, rugger.

Once—in his commercial days—a considerable traveller, he gets abroad less these days, which he regrets.

Of adventure he has had his share. A keen Territorial before the war, he found himself called up into an anti-aircraft regiment before hostilities broke out. Expecting to be sent to France or Belgium, he found himself despatched to Singapore. When it became clear that the Malay peninsular was doomed, Mr. Clark's unit was evacuated to Batavia. On the way their ship was bombed and sunk by the Japanese. Mr. Clark had the luck to be picked up by an Australian MTB, which landed him and other survivors on Sumatra. Here he was given charge of some infantrymen who were to be embarked for India. Two vessels, both Dutch, came for them. Of the larger party, that which sailed on the S.S. *Rosenbaum*, none survived. They were torpedoed, it was believed, and all were drowned. Mr. Clark's ship fared better. The Dutch skipper zig-zagged for a whole fortnight on the voyage from Padang to Colombo but he arrived there unscathed. From Colombo, Mr. Clark eventually reached Burma. He confesses that on occasion memories of that enforced immersion in the shark-infested seas off Sumatra recur to him when he is about to take a relaxing dip in the sea.

In March of this year, his elder son was killed while climbing in the Cairngorms. Normally, it must be an impermissible intrusion upon personal privacy to make mention of such a circumstance in a feature of this kind. When however someone has perforce to occupy a position in the limelight, such as a Division chairman, and has to continue daily in the gaze of his fellow men while adjusting himself to something so grievous, it may be his due that it should be acknowledged.

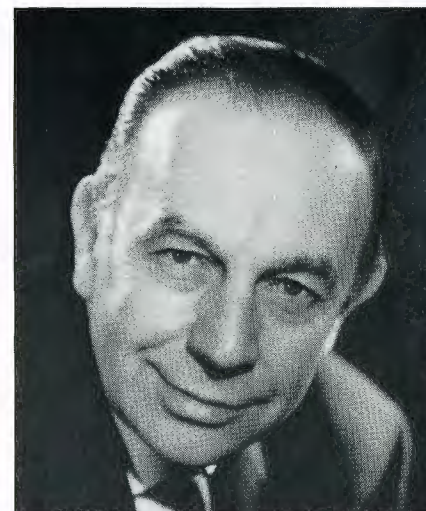
Mr. Clark forsees with confidence a great future for HOC. It is his pride, as it is his solace, to play his part in advancing its fortunes.

People & Events

Twiga meets twiga Mr. W. H. Dyson, managing director of Twiga Chemical Industries Ltd., found he was travelling with a real live twiga (the Swahili name for giraffe) when he boarded the Holland-Afrika Line's ship "Blitar" at Mombasa recently en route for a holiday in Italy. Twiga Chemical Industries, which has its headquarters in Nairobi, Kenya, is an associated company of ICI and represents many of the Divisions in East Africa



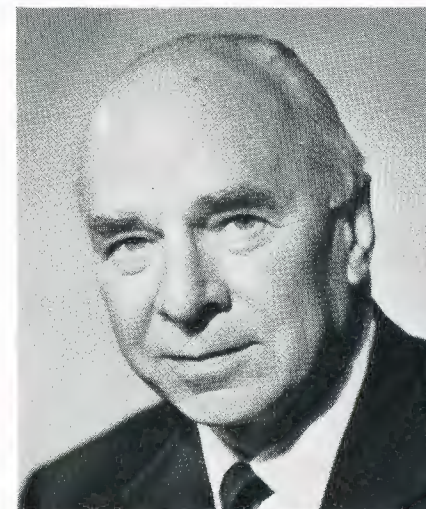
New Garden centre A model of the gardening centre to be created at Syon House, Brentford, the London home of the Duke of Northumberland. ICI is collaborating with the Duke in setting up the centre, and planning permission has been obtained for developing 32 acres of the 200-acre park which was designed by "Capability" Brown, the renowned eighteenth-century landscape designer. The scheme includes specimen gardens for different soils and conditions, a conference hall, and facilities for small exhibitions and demonstrations and for the public (estimated annual attendance is 300,000) to buy plants, equipment and sundries



Sir Paul Chambers



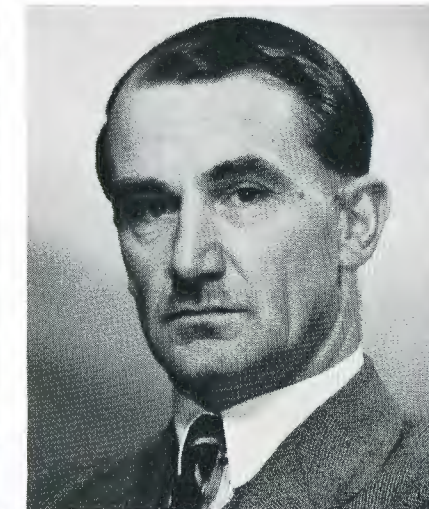
Lord Beeching



Mr. Harrold



Mr. Sutherland



Mr. Phillips

Birthday Honours Two members of the Board, two pensioners and an employee of Pharmaceuticals Division received honours in the recent Birthday Honours List. They were Sir Paul Chambers, ICI Chairman (KBE); Lord Beeching, ICI Organisation and Services Director (Life Peer); Mr. W. G. Harrold, formerly head of the Tariffs and Trade Department (CBE); Mr. G. G. Sutherland, formerly deputy head of the Central Safety Department (OBE) and Mr. D. A. Phillips, Pharmaceuticals Division publicity manager (MBE). Two overseas awards of interest were those of the OBE to both Mr. J. R. A. Glenn, chairman and managing director of Imperial Chemical Industries of Australia and New Zealand, and Mr. H. Hayman of ICI (India)



Third time lucky Mr. "Gino" Hawthorne, a 27-year-old fitter at Billingham Factory, competed in the recent Manx International Tourist Trophy, finishing in 30th place. This was his third Manx TT, but the first time he has finished the 226-mile race



Computer course for school-leavers Early last month ICI Fibres Ltd. ran a two-day course on digital computers for 22 boys and 8 girls from Yorkshire schools. After one day of instruction at Harrogate on 2nd July, the students were given a problem to solve over the weekend. Their programmes were then punched on to paper tape and on 7th July they travelled up to the Computer Centre at Wilton to see their programmes being run on the machine there



Portuguese 'Terylene' plant A model of ICI's first manufacturing venture in Portugal and first 'Terylene' plant in Europe was the centrepiece of the Finicisa Fibras Sintéticas SARL stand at the recent Lisbon International Trade Fair. Finicisa is the joint company set up by ICI and the Portuguese textile concern, Francisco Fino, to build and operate the 'Terylene' plant at Portalegre, which is due to start up in September. Our photograph shows the Portuguese President, Admiral Americo Thomaz (third from the left), on the Finicisa stand. On his right is Mr. Manuel Fino, chairman of Finicisa, and on his left Mr. C. N. Harries of ICI Fibres Ltd. and Mr. E. S. Pracana, chairman of ICI (Portugal)



Mr. Brown "drops in" Mr. George Brown, Minister for Economic Affairs, arriving by helicopter for a quick look at Wilton Works and talks with senior ICI officials on Tees-side. His visit was part of a two-day tour of the North-east. Mr. Brown said afterwards that he had been impressed by the rate at which Wilton was expanding and had found particularly exciting the experimental system for controlling operations on the butadiene plant by computer



ICI petrol An 'imperial' petrol tanker loading petrol at Billingham for delivery to garages in the North-east. The tankers are on hire to ICI from various road hauliers and are painted in the new 'imperial' livery, silver with a broad orange stripe bearing the name 'imperial' in dark brown



Plastic ammunition Lord Beeching, ICI Organisation and Services Director, firing a round of IMI (Kynoch's) revolutionary new waterproof shotgun cartridges when he officially opened a new plant at Witton for making this new ammunition on 17th June. These new Eley cartridges have cases of high-density polythene instead of the traditional paper and are completely impervious to moisture. IMI currently produce over 100 million shotgun cartridges a year, of which 40 per cent go overseas, making them the world's biggest exporters of such ammunition



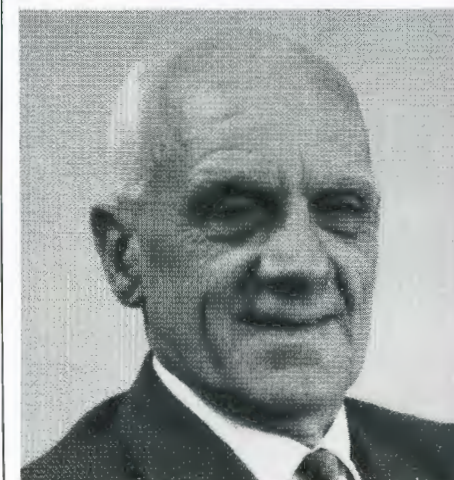
Second Staff Conference Sir Paul Chambers, Chairman of ICI, presided at the second Central Staff Conference which was held at the Europa Hotel in Grosvenor Square, London, on 6th July and attended by 105 representatives from Divisions, Head Office and the Sales Administrative Regions. Our photograph shows members of Agricultural Division who were there, including Mr. G. Gilbertson (third from right), the Division personnel director



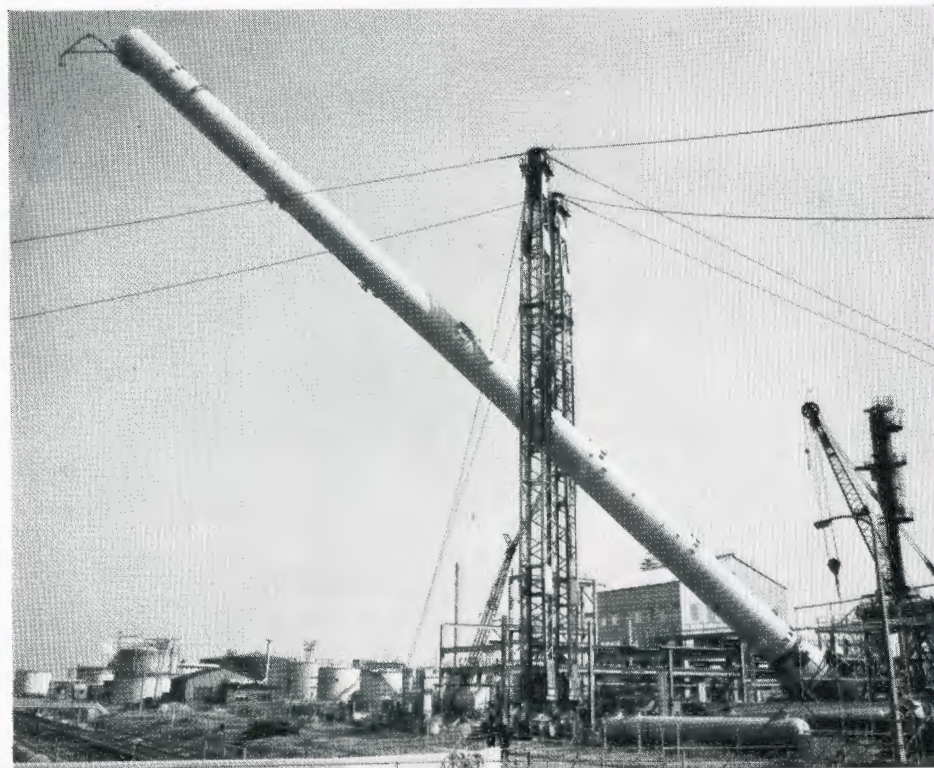
Mr. J. A. G. Coates, at present the ICI personnel manager with responsibility for staff matters, has been appointed General Manager—Personnel in succession to Mr. E. T. Grint, who retires at the end of the year



Miss L. Hirst, staff officer (women) in Head Office, has been appointed to serve on the Oxford University Appointments Committee. The Committee consists of university officials and representatives of firms and industries who employ graduates. Of the latter, a few are specially chosen because of their interest in women's work



Mr. Joseph Robinson, a stock checker at Mond Division's Pilkington-Sullivan Works, completed a half-century's service with the Company on 17th May



BINDING OF 1964 MAGAZINES

The Kynoch Press has again undertaken to bind Magazines for those readers who would like this done.

The cost will be 14s. 3d. a volume, and anyone who wants to take advantage of this offer should advise his Magazine correspondent now.

Big lift at Wilton One of the trickiest big lift operations to be carried out at Wilton was successfully completed when the longest and heaviest single column on Tees-side, and possibly in the country, was erected on Olefine Works. Two 150 ft. derricks, two diesel-driven winches and a guiding mobile crane were required to hoist the rocket-shaped distillation column, which weighs 140 tons, into its vertical position

New aid for swimmers 'Propathene,' ICI's polypropylene, is being used for novel swimming aids called 'Swimjets,' here demonstrated by Olympic gold medallist Anita Lonsbrough. The invention of a Belgian frogman, it is claimed that they will increase a swimmer's speed by up to 25%. They cost 19s. 6d. a set for adults, 17s. 6d. (called 'Stingrays') for children

Apprentices' Texas trip Six ICI apprentices in the first year of their training with Agricultural Division are having a working holiday aboard ship on four-week voyages from Rotterdam to Beaumont, Texas, and back. They are travelling in pairs as extra members of the normal company of a 26,000-ton sulphur carrier. The six apprentices, judged by the Division the best of their year, are (left to right) Stuart MacDougall, Alan Hall, Robert Wegg, Robert Sterrett, Robert Rattue and Peter Cossavella

RETIREMENTS

Mr. D. R. Mackay

Mr. D. R. Mackay, former Midland Region Manager, retired at the end of June after 37 years' service. Mr. F. C. Bagnall, ICI Commercial Director, writes:

Donald Mackay has been my friend for many years, including the 20 when I was Managing Director of BNS and his biggest customer. He has helped me many times, and together over the years we have enjoyed each other's company, discussing not only long-range business problems, but many other interests we share.

On the golf course he seldom allowed me to be the winner, but sometimes he was generous. If you could see him playing you could not imagine him as a pensioner, and I hope, at 62, I shall look and feel as fit and well as he is now.



I know from my contacts with his many close friends in ICI how much they are going to miss him—but I have it from sound sources that already many arrangements have been made with former colleagues for dropping in to see Norah and him at their charming house in the Cotswolds, for joint fishing expeditions, or for visits to international ball games and the like.

Donald has had a fine career with the Company and has enjoyed every minute of it. Whether he has most enjoyed his sojourn as Managing Director of ICI (Egypt) or his year or two with Eric Parker in the South, or his period as Regional Manager for Scotland and Northern Ireland, or perhaps his latest job as Head of Regional Sales in the Midlands, he will not say.

Donald has made important contributions to the more efficient running of the Company. He has always been a modest man, a connoisseur of the pleasant things of life and one having great influence for good, especially among his younger colleagues. We wish him a long and very happy retirement.

Mr. A. H. Merrie

Mr. A. H. Merrie, Head of the section of Central Personnel Department dealing with trade union matters, retired on 31st July after 37 years' service. Mr. E. T. Grint, General Manager—Personnel, writes:

When I started to write this appreciation of Alex Merrie my mind turned to job evaluation, to the bagpipes, to intermediate conferences, to the mechanics of the golf swing, the kilt, wages structure or fly fishing, but dominating all I thought of Alex's sense of humour. I and many others in the Company and in the trade unions are going to miss him for many of his qualities, but principally I think for the good fellowship which he generated. He was one of those people, unfortunately uncommon these days, who worked

hard and conscientiously but who could smile in adversity and who always gave one the impression that life and work were fun.

After graduating at Edinburgh University, Alex joined Billingham as a research engineer in 1928 and in 1937 transferred to the Labour Department at Billingham. In January 1944 he came to Central Labour Department, and his last 21 years have been spent in the development and administration of the Company's labour policy. He was, for example, the architect of the Company's Job Evaluation Scheme, which was introduced in 1948 and which in basically unaltered form is an important part of the wages structure today.

He has also been responsible for dealing with the operation of the Negotiating



Procedure Agreement and might justify the title of the "Prince of Intermediate Conferences." This somewhat unglamorous part of the labour policy prevents apparently minor matters from developing into major labour difficulties. For its successful administration it requires tact, firmness, sympathy, and honesty of purpose. Alex demonstrated all of these qualities. It is small wonder, therefore, that the Divisions and the trade unions felt reassured when Alex Merrie was available to guide those meetings to a satisfactory conclusion.

As I have said earlier, Alex is a man of many parts and many interests. Of his fishing prowess and exploits others are better judges, but I can pay tribute to his ability as a golf opponent—he was never beaten; at least when he played me! His bagpipe playing I enjoyed; when he was out of earshot! But of his Scottish pride I never tired, because he tempered it with his grand sense of humour.

OBITUARY

"Max"

It is announced with deep regret that Mr. Max Woosnam, who at the time of his retirement in September 1954 was the personnel manager for Head Office and the Regions, died on 14th July. He was 72. Mr. P. C. Allen, one of ICI's Deputy Chairmen, writes:

The death of Max Woosnam will leave a gap in the hearts of many from ICI as well as the outside world.

His zest for life, his infectious laugh which often hid a sharp wit, his obvious enjoyment of whatever he was doing will all be sadly missed. The friend of everyone in the Company who came in contact with him, from the newest apprentice to the Chairman, he was always completely unaffected and completely unspoiled by his many successes. He was a staunch friend and a gay and amusing companion.

His skill at games was immense, but he played for fun, because he enjoyed them and was good at them. No excessive training was necessary in Max's view. I remember he once told me: "When I was playing for Chelsea we were in the semi-final of the Cup or something like that and the pros seemed a little on edge, so I thought I'd have my usual lunch with a couple of pints of beer, and then a glass of port seemed a good idea, and I walked on to the field smoking a cigar. The effect was good and we won." I suppose Association football was really his best game, though lawn tennis players might disagree, for he had the rare distinction—rare at any rate since World War I—of playing for the full England International side and of captaining a First Division league club, Manchester City. How he was remembered in Manchester was brought



home to me one dreary night in the last winter of World War II. He and Joe Siddle and I had groped our way to a pub in the blackout, which was full of dispirited American soldiers. We got talking about football to the waiter, who turned out to be a City fan. Siddle said: "Do you remember who was centre half in 1922?" He replied "Max Woosnam, of course." So Joe said: "Well, here he is." I thought the waiter would fall through the floor; the travesty of beer which had been served to us was swept away, real beer from the publican's barrel was produced and not a penny to pay. It became a night to remember.

Footwork and co-ordination, "eye," and that elusive thing timing were of course the secrets of his success at games. I once asked him why he played so well and found it so easy to play well and he replied: "Well, I was very fast over five yards." And very fast in argument and debate too; when the quips were flying and compliments, both left- and right-handed, were being paid he was marvellously good company.



A HISTORY OF ICI by W. J. Reader

NO ONE of even moderate curiosity can look at ICI as it stands today without wondering how paint, plastics, explosives, fertilizers, dyestuffs, soda ash and 'Terylene' all come to be under the same roof. No doubt, if you are a chemist, you can suggest some pretty convincing answers, but you may find yourself in difficulties when it comes to zip fasteners and titanium, to say nothing of motor radiators. You will find yourself, in fact, forced back on historical enquiry, asking questions of the past.

Not, in the first place, of the very distant past, for businesses on the scale of ICI are something new in history. ICI itself is less than forty: some other very large businesses are younger still. They represent a new form of organisation, distinct as much from older ways of organising private business as from the nationalised corporations, and their importance is quite as much social as economic or industrial. Just because they normally assume a mid-nineteenth century form—the limited company—it should not be assumed that they are in any sense nineteenth-century institutions. Far from it: they are very much of the mid-twentieth.

Nevertheless their roots do run well back into the social and economic life of the past 150 years or so: in fact, right to the origins of modern industry. And because their scope is so wide, how they came into existence must be a help to understanding not only the functioning of these businesses themselves but also the makings of the modern world. Because of this—the

wide public interest that is bound to attach to an account of the origins and early development of ICI—the Board decided to commission a history of the company, and they have honoured me with an invitation to undertake it.

But am I the right person? Why not an economist or a scientist, with some knowledge of the technicalities involved? Why a historian who does not claim the specialised qualifications of either? It is certain that economic and scientific knowledge will have to be brought to bear, and it is equally certain that I shall be looking for advisers to supply my deficiencies, for whose help I shall be profoundly grateful.

But history is more than a matter of economic theory and scientific processes. It takes in also the interplay of human character and the reaction of individuals to the times in which they live. If Ludwig Mond had not been sufficiently enterprising to leave his native Germany for England, would there have been a large chemical works at Winnington today? If he had got on better with John Hutchinson, would his opportunity have presented itself in the form it did? If a classical education, rather than a scientific or technical one, had not been one of the distinguishing marks of a late Victorian English gentleman, would Mond have got his opportunity at all? Surely some Englishman would have got in ahead of him—and, glancing away from Mond for a moment, the English dyestuffs industry, from leading the world, would hardly have fallen so hopelessly behind Germany by 1914.

The first meeting of the Board of Directors of ICI, all present with the exception of Lord Ashfield. Seated (left to right): Sir John Brunner, Mr. H. J. Mitchell, Sir Harry McGowan, Sir Alfred Mond, Lord Reading, Sir Max Muspratt. Standing (left to right): Sir Josiah Stamp, Mr. B. E. Todhunter, Mr. Henry Mond, Colonel Pollitt, Mr. J. G. Nicholson, Mr. G. C. Clayton



The author and his assistant, Miss Jacqueline Turner, examine old records in the Mond Division archives at Brunner House

You can reply, of course, that in the economic circumstances of the day, and with the development of the chemical industry being what it was, it was inevitable that someone should undermine the Leblanc process, and the fact that the person happened to be Ludwig Mond is unimportant. But that argument begs the whole question which the historian tries to answer: how far do people control events, and how far do events control them?

The historian must get his answers from two main sources: people and papers. People, as far as living memory runs back, give a vividness and immediacy to events which, on paper, are flat and bloodless; moreover memory holds more than is ever written down. But people disappear and memory fades, or plays strange tricks with time, and then, if you have no papers, you have nothing. Historical research, therefore, is very much a dusty, solitary job among shelving, files, and old tin boxes, with minute books, letters, reports and legal documents which someone in the past has seen fit to preserve, or perhaps forgotten to destroy.

In many of the companies which now belong to ICI a great deal of historical research has already been done, or preparations have been made for it in the shape of carefully stored and catalogued collections of documents. In others, the work of collecting and cataloguing is still to be done. In all, the records that exist and the many excellent pieces of historical writing that have already been done will have to be very thoroughly searched so that the information they contain can

be extracted from them and built up into a coherent narrative. In doing this, I shall have the help of Miss M. Reeve of Secretary's Department and two research assistants, Miss J. Turner and Miss V. Mytton, whose work has already begun.

In looking at the past of a business, some leading questions always suggest themselves. Who set it up? Where did he get the capital? What had he got that he was hoping to sell? To whom? Why did he choose this particular place? Who were his competitors? How fast did the business grow? What caused it to succeed, or fail, or join with others? Any papers, any recollections, which shed light on matters like this, or indeed on any aspect of the development of any business that has been or now is a part of ICI will be very gratefully received, and I shall be very glad to be put in touch with anyone who may be able to help. I have already done some preliminary travelling within the business, and I hope to do more as the project develops, and so do the other members of the team; I hope that anyone who would like to meet us will be able to do so.

This task is only at its beginning. So far as I can see, there may well be four or five years' work to do before the book is written. The fascination of the work is immense, and if the kindness which my colleagues and I have so far received is an indication of what is to come, it will be immensely pleasurable as well. I can only hope I shall prove equal to the responsibility so that when the book comes out it will add something, however small, both to ICI's understanding of itself and to our general perception of the world in which we live.

Reception at Jealott's Hill

by Anne Bilsland

Jealott's Hill Research Station, near Bracknell in Berkshire, the centre of the agricultural research activities of ICI, was set up in 1927, which makes it just one year younger than ICI itself. It has had a distinguished history and has achieved world fame for its discoveries of gamma BHC, selective weedkillers and, more recently, the insecticide menazon, and the herbicides paraquat and diquat.

Recently Jealott's Hill held an Open Day for representatives of the national, agricultural and technical press, who responded in large numbers.

Typical of many others was a coach party which set out from London. The weather forecast had not been good and we had come well equipped with raincoats and umbrellas, and one or two of the party, unnecessarily pessimistic as it turned out, had brought along Wellington boots.

On arrival we were welcomed by Dr. W. R. Boon, the director of the Station, who briefly sketched in some historical details and supplied us with some facts and figures. The Station, he told us, occupies 543 acres, just over 500 of which are farmed. The area used for field experiments varies from year to year but this year is rather more than 100 acres. The remainder of the land is farmed commercially, carrying a herd of about 50 dairy cows, 50 beef calves and 250 breeding ewes, the main arable crops being winter wheat and spring barley. Research laboratories, glasshouses, offices and farm buildings occupy the remaining 40 acres.

The total staff is now almost 500, more than 130 of them university graduates, many with higher degrees. Of this total about 60 staff—members of the Overseas Development Group—are at present stationed at Fernhurst in Sussex, and a further sixty are employed on one or other of the four ICI Development Farms controlled by the Station.

The day's programme had been planned around two main themes—1. research on fertilizers and their use and 2. the evolution of an agricultural chemical.



Members of the Field Experiments Section discussing procedure in the field. In the background are the main buildings and technical glasshouses of the Research Station

The press party was split into two groups, the one which I joined occupying itself with fertilizers in the morning and crop protection in the afternoon, the other tackling a similar programme but in reverse.

Our first stopping point was in one of the greenhouses. Here Dr. W. G. Templeman, deputy director of the Station and

head of the Agricultural Research Group spoke of the Company's pioneer work in the introduction of concentrated fertilizers in this country and particularly of the combined efforts of the Station and of the Agricultural Division's Research Department at Billingham over the past decade in the formulation of more and more concentrated fertilizers, which reduce transport costs and allow quicker, cheaper application on the farm itself.

Fertilizer studies in progress, it was explained, range from small-scale pot

experiments in the laboratory to field experiments either at Jealott's Hill itself or at one of the four ICI Development Farms or, again, on commercial farms widely scattered throughout England and Wales.

Work at Jealott's Hill is concentrated on grassland, and on cereals, potatoes and sugar beet, the large-acreage crops. A typical example of changed farming practice as a result of research at Jealott's Hill is the now general use of fertilizer combined with salt for sugar beet crops, which results in a much increased yield of sugar per acre. The salt used, incidentally, comes largely from ICI's rock salt mine at Winsford, the only working salt mine in the country.

It had next been planned that we should inspect the herd of calves being fattened off for beef, but the weather dictated otherwise and instead we crowded into a barn, sitting around on bales of straw, to hear Dr. A. E. M. Hood, the farm manager, talk about the very encouraging results achieved on the farm. Increased efficiency in milk production, Dr. Hood said, would mean that in future the country's milk supplies would be derived from fewer acres of pasture, leaving the farmer scope for producing beef from the surplus land under grass. World demand for beef was rising and prices were likely to rise correspondingly.

Next we braved the weather to view some of the trial plots of cereals and to listen respectfully as Mr. D. R. Laurie rattled off statistics and compared the merits of particular varieties. Unused to the subject, I found myself pondering the strange names of some of these. How for example did Maris Baldric and Maris Badger (barley) and Rothwell Perdrix (wheat) get their names?

We then drove around the farm roads, with our guide drawing our attention to points of interest, not omitting the landmark of the Ascot Grandstand on the skyline (it was Royal Ascot the following week), to our last stop before lunch, the 'Gramoxone' trials.

'Gramoxone,' as is well known, is one of the trade names given to the revolutionary bipyridil herbicides discovered at Jealott's Hill several years ago, but readers will be more familiar with the chemical under the retail trade name of 'Weedol,' the PPL garden product introduced earlier this year, which enables gardeners to "weed with a watering can."



Trolleys of plants ready for insect rearing and experiments



'Perspex' rings with electrical heat barriers to prevent escape of aphids from broad bean plants treated with experimental insecticides



Plant emergence counts on a kale experiment at Jealott's Hill

On the farm its use does away with the need for ploughing by killing off the top vegetation. This means that the amount of labour necessary up to the time of drilling is considerably reduced, a farmer's sowing and planting programme is more flexible (we saw a trial sowing of spring barley on a 'Gramoxone' treated plot which it had been possible to sow six weeks earlier than a similar crop on a ploughed plot), and, of special interest in areas of low rainfall, the risk of soil erosion is much reduced.

The first direct drilling trial was begun in the autumn of 1961, when winter wheat was grown on old permanent pasture treated with 'Gramoxone.' A similar trial has been continued on the same plot each year since then and it is now growing its fourth crop of winter wheat without any

ploughing of the soil. The results for the first three years' crops are almost identical with those of an adjoining ploughed plot, with if anything the 'Gramoxone' plot having the edge on the other.

Speaking after lunch of the practical significance of some of the Station's discoveries, particularly in terms of exports, Mr. R. A. Hamilton, a deputy chairman of the Agricultural Division, said that exports from the Agricultural Division of products in which Jealott's Hill plays a part included fertilizers as well as Plant Protection's crop protection products. Fertilizer exports had been increasing during the last three years at an average rate of 20 per cent a year. This year they would exceed £6 million, and he predicted that such exports would double within a few years and certainly before

1970. British shipping, he added, earned more than £1 million a year in carrying ICI's fertilizer exports overseas.

At the present time, Mr. Hamilton told us, over 60 per cent of Plant Protection's sales are exported and to no fewer than 100 countries. These exports at present exceeded in value that of fertilizers. Plant Protection's exports had more than doubled in value in the last three years, and it was expected that by 1970 they would have risen by more than five times and would continue at a very high rate during the 1970s.

It might be asked, said Mr. Hamilton, if ICI would have the new products available in sufficient quantity to meet the demand which would arise from this work. His answer was "yes," we had sufficient products to meet the demand at

present and we had new plants coming in at the end of this year or early next year which should meet any foreseeable demand by 1970. Should demand increase at a faster rate, there would be time to erect yet further plants.

In the afternoon we returned to the laboratories for a further tour and talks, this time illustrating the research—lasting at least five years—which must be done before any new chemical can be sold as a pesticide, with actual case histories of two recent Jealott's Hill discoveries, menazon and paraquat, the active ingredients of 'Sayfos' and 'Gramoxone' respectively.

For myself, and I imagine for most of the party, the safety aspect was the most absorbing. Just as soon as laboratory work at Jealott's Hill showed that paraquat, the active constituent of 'Gramoxone,' had properties which could be useful in agriculture, toxicity tests were started, and this work, which has been going on for well over five years, has involved the analysis of traces of the chemical in food crops, a study of toxicity to animals (undertaken by the Industrial Hygiene Laboratories at Alderley Park, which are part of ICI's medical service), metabolism in plants and animals, and a study of the effects on soil fauna and other aspects of wildlife.

We were shown how in most uses of paraquat no residues at all are present in the edible crop. An exception, however, is potatoes, where paraquat is used to destroy the green foliage in order to simplify lifting the crop. It was reassuring to learn from Dr. A. Calderbank that the safety margin for human beings was 100 grammes and that to consume this amount one would have to eat over 2000 tons of potatoes in one's lifetime, which works out at about 2 cwt a day.

Paraquat and its near relative diquat have been found also to be an effective means of controlling aquatic weeds in ponds and canals, and we learned from Mr. J. F. Newman, head of the Ecology Section, of the special programme of research into its effects on pond life.

We next heard from Mr. J. F. H. Cronshey, manager of the Overseas Development Group, and Mr. I. E. Darter, the assistant manager, of work currently in progress on 'Gramoxone' overseas. The group already has 40 teams working in 21 different countries. Altogether about 140 people are involved,

some of them Jealott's Hill staff, others agricultural experts on the staff of the local ICI companies. The scope of the work is enormous. In Malaya, for example, plantation and forestry products have priority, while pasture renovation is important in South America. A constant flow of information between these teams and the scientists at Jealott's Hill helps speed up the overseas development of this extraordinary chemical which could, in the opinion of Dr. Boon, reach a world potential of £100 million a year.

Still on the subject of 'Gramoxone,' we filed out of the laboratories to see members of the machinery development group put some of their novel inventions through their paces and to admire healthy plots of seedlings—ranging from vegetables familiar in our own gardens to exotics like rice—drilled into land which has been

treated with 'Gramoxone' instead of being cultivated in some cases and since kept "weeded" with 'Gramoxone' too.

Finally back to the marquee for a much-needed cup of tea and a quick description of development work after successful field trials (Mr. R. R. Turner), the evaluation of new farming techniques (Mr. H. P. Allen) and economic assessment by means of "recorded" farms (Mr. J. Clark).

Summing up, Dr. Hamilton referred to the Station's fine record of achievement up to now—now at a higher peak of effort than ever before—and to plans to increase still further the scale of the work being done there.

Altogether an inspiring day for any member of ICI and, for those of us who pass our working lives a long way removed from fields and pastures, a salutary reminder that without the aid of scientific discovery and application a lot fewer of the human race would be able to live off the land than do so today.

Taking samples of pond life to evaluate the side effects of aquatic weedkillers



fancy meeting you!

by Sidney Rogerson

How often in the course of one revolving moon do we not use those words? And then we probably add the palpably stupid tag: How small the world is!, when we well know what a very big and overcrowded place is our planet.

How many, I wonder, pause for a second to weigh the astronomical odds against the coincidences which in one form or another seem to occur every day? Precious few, but I happen to be one of the few. When I was a small boy I used to come down every year with my parents from a little market town in the Yorkshire Dales to spend our summer holidays with my grandparents at Parkstone near Bournemouth. In those far-off days this meant bumbling across London from Kings Cross to Waterloo by horse-drawn omnibus—a great adventure. Once, when we were in the midst of this yearly pilgrimage, with our schoolboy noses pressed against the windows of the bus so that we should miss none of the jostling, hustling river of humanity which flowed past us, who should we espy walking along King William IV Street, Strand, but my grandfather—white torpedo beard, high-crowned Churchill bowler, black coat

and all; he was, as we were to learn later, only up in London for the afternoon, yet chance had ordained that we should spot him whom we were journeying to meet, out of all London's restless millions.

The incident stuck indelibly in my mind, child though I was. From that moment I was not just prepared to accept such happenings. I began to notice them, and perhaps because of that my life has been a string of coincidences. They are indeed such regular occurrences that the wildest and most improbable of them no longer has the power to astonish me.

Let me start with three of the more preposterous examples which come readily to mind. All these happened just before the last war, while I was still in the service of ICI. In 1939, then Publicity Controller, I was sent over to the USA and Canada. It was my first and only visit, be it noted. A year before, in 1938, I had written a book on the subject of propaganda, which had duly appeared and after the manner of books, or at least the sort I write, had faded into a decent obscurity. In England it had earned some notice but had then to all intents and purposes disappeared from view and from memory. Yet on the

very morning I landed in New York an isolationist Senator from the wild and still woolly West, who had no personal knowledge of me or that I happened to have that day arrived in his country, had dragged the book into the harsh, unblinking limelight of American life by attacking it and, for good measure, reading a whole chapter from it into the Congressional Record, which is the US Hansard plus! Imagine that! My first visit, a moribund volume, and a Senator who knew not whether there was even any such real person as the "Sidney Rogerson" whose name, thanks to him, for a brief hour flared from headlines in newspapers all over the Union. As my visit was a private goodwill mission to one of ICI's associates, and the Senator charged that my book attacked the free will of the American people, I was hardly a welcome guest!

My next coincidence, on the same trip, also had embarrassing consequences, although of quite a different kind. First I must explain that there exists in Europe a cordial, liqueur, strong water—call it what you will—known to the French as *eau de vie framboise* and to the Germans as *Himbergeist*. I do not know whether it is better known in this era of tourism, but in those days it was virtually unknown outside Europe, and with good reason. It is like a mixture of raw alcohol and raspberries, and is strong enough to lift your hat off. One day my hosts were gracious enough to put on a party in my honour. It began, I remember, at 4.30 p.m. on a blazing May afternoon in the garden of one of the senior executives. The sun beat down as I was regaled with sticky cakes and sandwiches, washed down with enormous dry martinis and "old-fashioned." With great care I managed to ration myself through the ordeal, imagining that this would be the sole occasion of the day. Far from it. About 6.30 we moved into a house which boasted a replica of an English pub, where I was given my own huge shaker of dry martini, with pickled onions, much of which was privily decanted into the sawdust-filled cuspidors. After another half-hour or more of such drinks, the party moved on to dinner, where—oh, agony!—the host most astonishingly produced the whole gamut of table wines. Still my head stayed reasonably steady until, at the meal's end, there was brought round a large tray of "cordials." Recognising the possible effect of such

top-dressing on a stomach almost awash with alcohol, and realising how bad it would look for the guest of the evening to refuse, I hastily excused myself to my host by trying a diversion to cover my action:

"Sorry, I can't take cordials. The only one I like is Himbergeist."

"Gee, Roger," he replied gleefully, "do you know, I've gotten two bottles of that, brought back from Germany with me. Thank you for reminding me, I must open one in your honour."

And up came the bottle. In Europe this ferocious fire-water is drunk in thimblefuls from glasses which have been made ice cold. That evening it was poured out and drunk in port glasses, and nearly full at that. Dancing—or would the better word be pandemonium—ensued! Suffice it to say that I, being forewarned, had dodged the poison. All the others had succumbed to it in generous doses.

One guest made a pass at his hostess and got his face scratched. Another of my fellow guests, feeling and looking like death, managed to retain his dinner until, with a fine sense of fitness, he could bring it all up on the pavement outside the hotel just as the guests were coming out of the weekend dance!

Fancy encountering such an exotic beverage, of all drinks in the world, in a country house near Chesapeake Bay!

Wars upset the human beehive so thoroughly that, not surprisingly, they increase the probability of chance meetings. Or at least they considerably lessen the odds against them. In the First War, which I am accustomed to appropriate as *my* war, it was a case of "Fancy meeting you" almost every day. Of the many coincidences I experienced, the two most improbable were triple meetings.

The first begins with the week war was declared, August 1914. I was staying outside Bristol at the home of a Cambridge undergraduate friend, E. M. Watts, popularly known as Bobby. In the house party was his schoolboy cousin Harry Marshall. The party broke up on the declaration of war and for three years none of us met again. Then in July 1917 I was walking across the dusty, fly-blown parade ground of Dominion Camp, just behind Ypres, when I saw Harry, by now a fully fledged gas expert in the Sappers. In answer to my question of what he was doing in Dominion Camp, he told me he was in search of Bobby



"... by now a fully fledged gas expert in the sappers"

Watts. He had heard that Bobby was with the 25th Divisional Artillery, who were somewhere in the vicinity, and had arranged to meet him there. A few seconds later Bobby rolled up. Three years, three men, three different arms of the service, for I was an infantryman!

The second meeting was even more astonishing. I went out to France in 1916 with two other officer reinforcements of my regiment, then the West Yorkshires. One was Captain Justice Tilley, a regular soldier, who was destined in the Hitler war to become a major-general and to be chosen to command and take overseas the 2nd Armoured Division, which the late Sir Winston sent to Egypt in 1940.

The Division was incomplete, but it was all the armour we had. With it Tilley took Benghazi, only to die in the hospital there of a nose infection two days later. The night Tilley spent with Churchill at Chequers sounded like a riot—though that is another story.

The second officer was Sir Kenelm Lister Kaye, who was a tall, loose-limbed Etonian with red hair and freckled complexion. He had gone first to a new army battalion of the regiment, whence he had transferred to the Royal Air Force. In spite of his six feet four inches and thirteen-odd stone he had become a fighter pilot. I had become adjutant of the second (regular) battalion, but fluctuated between

that and the staff of the 8th Division. In early April 1918, during the mad confusion that ensued after the German breakthrough of 21st March, I was driving in a staff car to collect some blankets for the regiment, when near the 4th Army Headquarters at Querrieu I passed Tilley, also in a car, pulling on to the road out of his tankodrome. Naturally we stopped.

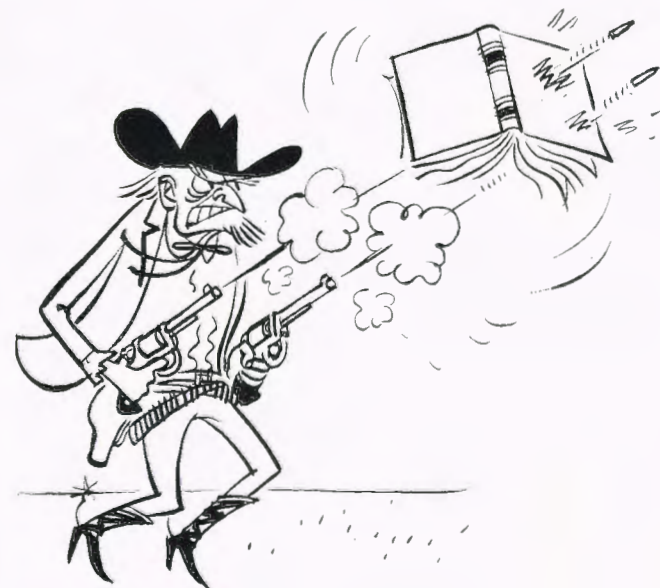
"Come and look at what has just landed in my camp," he said. "Old Kaye! Shot down and up the backside by a Hun, and lands, of all places, on me!"

Fancy that meeting! I could go on in the same strain for a long time, but I must sign off with my most recent experience.

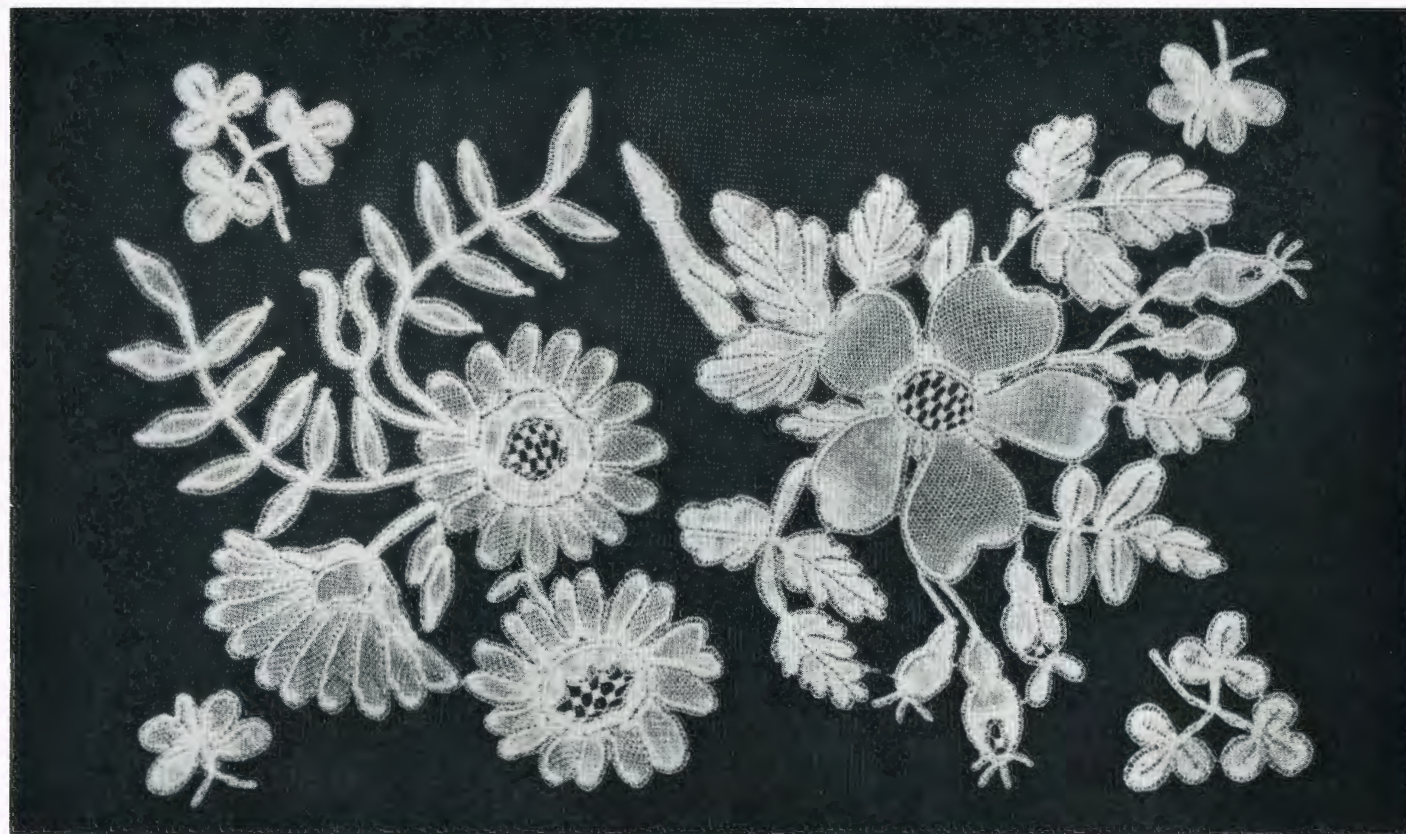
Ten days before Christmas, my elder son, a naval officer on leave from Malta, walked into his hairdresser's in Dover Street only to meet my brother from Rome, who was in England collecting his son for the school holidays. Within minutes my brother was joined by his son and his Italian wife. He signalled the meeting by making the familiar observation: "How small the world is!"—which my sister-in-law promptly and pertinently capped with the retort:

"It isn't the world that is small. It's just that there are so many Rogersons!"

I think she really said "too many"—but no matter!



"... a Senator from the wild and still woolly west..."



HONITON LACE

by A. G. Woodgate

IN these days of man-made fibres and synthetic materials it is interesting to look back for a moment to old methods of manufacture that are now no more: to methods that kept people busy and interested before King Telly reigned supreme.

One such art, long since superseded by the machine, was that of making lace as practised by the women and girls of Devon from the eighteenth century until it faded out in the early part of this.

The beautiful fruits of their labour came to be known as Honiton lace, and as such have been admired and bought by countless visitors to the West Country. In Honiton there is still a charming little shop that specialises in real and copied Honiton lace.

The term "Honiton," however, implying as it does that the lace was made in that town, is misleading, for while some of it undoubtedly was woven there and for that matter in other towns and villages about Devon, the place that held the recognised lead in the craft was the little fishing village of Beer, boasting of no

more than a thousand souls altogether, nestling in a sheltered hollow on the South Devon coast. When the lacemaking first started the only way of getting the finished product to London was by catching the stage coach running from Exeter. The nearest point of contact from Beer was Honiton. As far as the people of London were concerned, the lace came from there and they dubbed it "Honiton" lace.

As methods of communication improved, Beer began to get its proper share of fame in the craft, so that when Queen Victoria came to marry her Albert, so well known was the skill of the ladies of Beer that they were specially commissioned to make the wedding veil, and so pleased was her Majesty with the result that she sent them a letter of thanks.

The old village school at Beer proudly exhibits that letter to this day, and with it in its glass-fronted case are many diplomas and medals won by the women down the years at innumerable handicraft exhibitions in all parts of the country, where

always samples of home-made lace were shown. One large bronze medal in the case is a Croix de Mérite, won in the Paris Exhibition of 1897.

The winner of that medal, and of other awards as well, was one Mary Woodgate, my paternal grandmother, so it is perhaps natural that my memories of her are always linked with lacemaking. I remember her as a large, placid woman with a wonderful simple faith that carried her through the death of her only son in Flanders in 1916 and caused her to say when Albert, her husband, died at the age of seventy: "I be ready now for when my time comes and I can be with Albert again." No modern doubts about life after death and such-like: just a childlike sureness of reunion that many of us must envy.

Every weekday she would get out her lacemaking pillow, a big round cloth-covered ball on which the pattern to which she was going to work was pinned. Pins, too, were used to pick out the design, and from these would depend a number of

wooden bobbins some six inches in length on which the thread that went to the making of the lace was wound. Nimble fingers moving with amazing speed and dexterity would set up a cheerful clackety-clack with the bobbins while the most fragile, delicate-looking work imaginable would form on the pillow.

I think it was in large measure her placidity that made Grandmother such a wonderful lacemaker—and incidentally made her an excellent, never-ruffled foil for my grandfather's rather puckish humour, as when he answered the door to two men seeking antiques. He thought for a while, then said slowly, "Well, there's only one real antique I've got. In here, gentlemen," and he ushered them into the cottage and pointed to Grandmother busy at her lacework. The two men saw the joke and explained, but all Grandmother said was, "Lor' sa' us, Albert, you shouldn't do it, y'know," and went on with her work.

She had, too, a patience that made her an excellent teacher, and for many years she taught lacemaking at the village school. Indeed, it was largely due to her influence that the art continued so long in Beer, for she was still attracting a small class of girls long after the rest of Devon had given up.

As the arch-priestess of the cult, Grandmother always worked indoors, but the other village women during summer used to sit in the open doorways of their cottages, busy at their pillows. In those days few visitors came to the village, for the nearest railway station was 2½ miles away (it's even further now) and the journey between was made by horse and buggy, but the few who did get there were always fascinated by the lacemaking, and the women earned many a welcome extra shilling by posing for photographs.

In the days that I remember, the husbands of most of these women wrested a precarious living from the sea as fishermen, sailing in small boats with a crew of two. They would sail on the ebb tide and return on a full tide to haul their craft up on the pebble beach by manual windlass. Once above high-water mark they would spread out their catch on the beach for auction to the dealers standing around. The "wings" of skate were then cut out with a quick slice of a razor-sharp knife and other fish were gutted, so above was always a wheeling, screaming ceiling of hundreds of gulls, each one ready to



Fishermen at Beer unloading their catch. Beer Head can be seen in the background. Photograph taken about 1910

Top: Mary Woodgate and her pupils, about 1914

Opposite: An example of Honiton lace

swoop down on the offal at the first opportunity.

They were peaceful, law-abiding folk then, who would not touch the lacemaking or go to sea on the Sabbath, but in a previous generation the menfolk of Beer earned fame as smugglers and many served under the notorious Jack Rattenbury, the prince of smugglers. In those days smuggling was considered to be no more sinful than dodging the income tax man is today, and even the local squire and parson used to buy the smuggled goods, so to this day in some of the oldest

cottages and big houses alike there are still to be seen hidey-holes for contraband, wine or silk, usually in the chimney-breast of the huge fireplaces of the day.

Another relic of smuggling in Beer is to be found at the seaward tip of Beer Head that juts a mile and a half out to sea. Here is a large cave with its own pebble beach, and still to be seen is part of the tunnel hewn by the smugglers from there to well inland.

Rumour has it, too, that on occasion, when a ship was sighted near the coast, the women of Beer would put aside their lacemaking and go out on Beer Head with lanterns while their menfolk would launch their boats to plunder the resultant wreck, as the ship headed for the lights of an apparent harbour and finished up instead on the jagged rocks that lie at the foot of the cliffs.

Now the wrecking, the smuggling, and the lacemaking alike are gone, but it is safe to say that however clever machines become they will never turn out anything quite the same as "Honiton" lace.

DOWN MEXICO WAY

Until quite recently the average Britisher's knowledge of Mexico was very probably hazy. He might remember from school history books something about the great Hernan Cortes and his encounter with Montezuma, the Aztec king, in his fantastic lake city of Tenochtitlan. Perhaps he would also have heard of Archduke Maximilian, whose brief reign as Emperor of Mexico ended before a firing squad in 1867. And he might also be familiar with the films of Cantinflas, the Mexican Charlie Chaplin.

To mention, when I am in England, that I live in Mexico is sufficient nowadays, however, to start a discussion on Acapulco and its attractions, including such things as the divers at the Quebrada who plunge from the cliff face, 150 ft. up, into a narrow channel of the sea; or to ask about Puerto Vallarta, another resort on the Pacific coast, where Richard Burton accompanied

by Elizabeth Taylor recently completed the filming of "The Night of the Iguana"; or to bring forth the question as to what are the correct pronunciations of "Popocatepetl" and "Ixtaccihuatl," the two extinct volcanos whose 16,000 ft. high snow-covered peaks form a very fine view from Mexico City; and so on.

To quote a few basic details to put the country into perspective, Mexico is roughly six times the size of Great Britain, bordered on the north by the United States—the border for the most part being formed by the famous Rio Grande—with Guatemala as its next-door neighbour to the south. The population is now about forty million and is mainly of mixed Indian and Spanish descent, although in the more remote towns and villages the people are still almost entirely Indian. The language of the country is Spanish. The major portion of the central area of the country is

covered by the mountain range known as the Sierra Madre, and it is towards the southern end of this range that Mexico City, at a height of 7400 ft. above sea level, is situated. The population of Mexico City is now approaching six million people, and it can be considered as one of the major cities of the world.

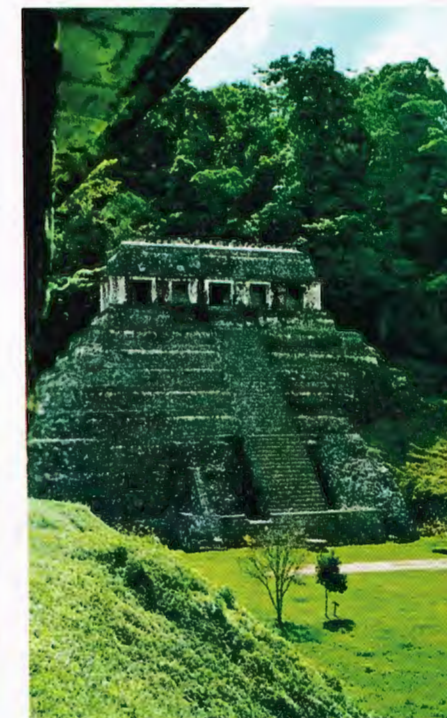
Mexico really only makes its appearance in history at the time of the Spanish Conquest around 1520, since the Indians had not evolved a system of phonetic writing and much of the evidence of their civilisation was destroyed by the Spaniards.

A view of part of the paint plant at La Presa outside Mexico City jointly owned by ICI and Canadian Industries Ltd.



Mexico, currently in the news with the controversy over the decision to hold the Olympic Games there in 1968, is the fifth largest country of the American continent and the third largest in terms of population. T. D. Stevenson, ICI's senior man in Mexico, writes here of the country and of ICI's interests in it.

What information there is of the country before that time shows that it was inhabited by Indians who, it is believed from their physical characteristics, originated in eastern Asia. They lived largely as independent tribes, the best known of these probably being the Mayas of Yucatan and Chiapas, and the Toltecs and Aztecs of the Valley of Mexico. The practice of human sacrifices was common to all the tribes, and many pyramids were built on which to perform the sacrificial rites. Several of these were of a size comparable with that of the Great Pyramid of Egypt, one of the best known being the Pyramid of the Sun at Teotihuacan, only a few miles outside Mexico City. The usual mode of performing the sacrifice appears to have been for the priests to tear out the victim's heart and then to throw the body over the side of the pyramid. And while it is said that some considered



it an honour to be sacrificed in this way, it is difficult to believe that others did not have some doubts about it!

The Mayas are well known for having achieved a remarkably high level of development and at their peak are considered to have been ahead of Europe in some respects. The production of an accurate solar calendar is probably the best-known example of their achievements. Many remains of the various tribal civilisations have been discovered and can be visited, and for this reason Mexico forms a fascinating country for anyone who is archaeologically minded.

The main pyramid at the ruined Maya city of Palenque

Below: The solar evaporation ponds ('Caracol') at Sosa Texcoco



DOWN MEXICO WAY

Top: Scene outside the Basilica of Guadalupe in Mexico City. This is the most venerated shrine in the country
Bottom: The Puebla Cathedral, Mexico City



While, as one might expect, eating and drinking habits have changed over the several hundred years since the Spanish invasion, a few characteristic features still remain. For instance, the staple diet of the Indians was maize flour, and this they ate in the form of "tortillas," which looked very much like an ordinary pancake. Today, although many other forms of diet are available, the majority of Mexicans still prefer their flour in the form of tortillas, and there is no doubt that wrapped around a little chicken they are very tasty.

Another interesting example is provided by the alcoholic beverage which the Indians made by extracting the sap from the large maguey cactus plant and allowing it to ferment for a short time, when it developed an alcoholic content roughly equal to beer. This is still the standard alcoholic drink of the country and is known as pulque. The sap can also be drunk with little or no fermentation, and we have a maid, brought up in a fairly remote village, who maintains that she was twelve years old before she had a drink of water!

Turning again to history, with the revolt against the Spaniards, with wars against the United States and France and with numerous revolutions inside the country, Mexico had little opportunity of developing economically to the extent to which she would otherwise have been capable. However, with the move to a more stable form of government during the 1920s things began to change, and since that time no serious military uprisings have disturbed the country. Mexico has therefore been able to concentrate her energies on improving the standard of living of the people and as a step in this direction has undertaken a policy of industrialisation of the country. In this she has achieved a considerable measure of success and should continue to do so if the sound fiscal policies she has operated over the last few years can be maintained. Although about half the population is still engaged in agriculture, the large majority of all consumer goods sold in Mexico is of local manufacture, and the most noticeable recent example of development of a broader industrial base is the manufacture locally of cars, diesel lorries and tractors.

ICI is playing a part in this industrial development programme and as far back as 1953 began by giving technical assistance to Sosa Texcoco. This firm is



The office of ICI's paint distributors, M. Heredia S.A., at Merida in Yucatan

producing soda ash and caustic soda from the natural deposits of the lake of Texcoco, near Mexico City, the lake which saw some of the bitterest fighting when Cortes overcame the resistance of the Aztec chieftain Montezuma. ICI is continuing to give technical assistance to Sosa Texcoco and is a large shareholder in the company. In 1960 ICI began to produce paint in Mexico with the formation of the company Pinturas ICI de Mexico SA. This company is a joint ICI-CIL venture and is one of the major paint concerns in the country. The factory is situated at La Presa, some miles outside Mexico City, and the office staff share accommodation in the city with the branch of ICI (Export). In addition to the factory and head office, Pinturas operates a number of retail outlets in the Federal District and has agents in the more important provincial cities. Even more recent is the construction of a plant for the production of 'Cereclor'—a plasticiser for PVC—due to be started up very shortly.

The Mexican branch of ICI (Export) was established in 1950, originally to sell

ICI dyestuffs. Although there has been a considerable change in the pattern of sales since then and heavy chemicals and plastics are significant ICI exports, dyestuffs still remain the most important single group of products sold through the Branch. ICI also formed recently a joint company with the American Home Products Corporation of the USA, Ayerst/ICI Laboratorios Asociados, for the processing and sale of pharmaceutical products. Other projects are likely to follow.

Mexico's gross national product has risen from 66 billion pesos in 1958 to 90 billion pesos last year (the exchange rate of 35 pesos to £1 sterling has remained stable for a number of years), and although during that period prices rose 14%, average wages rose 97%. There is an expanding social security system, and illiteracy is being progressively eradicated. A significant part of Mexico's foreign currency earnings come from tourism. Preliminary data show that over 922,000 tourists travelled to the interior of the country (as distinct from visiting only the US border towns) compared with 866,000

in the same period of 1963 and just over a million for the whole year. There are first-class hotel facilities in the capital, at Acapulco, the famous beach resort and in provincial cities where the more archaeologically inclined tourists may wish to stay in order to see for themselves the pre-Conquest remains and the Spanish architecture of the succeeding centuries.

There is no doubt that as a result of the success of her economic policies Mexico, over recent years, has achieved recognition by other governments as a country of international status, but such recognition by the ordinary men and women of the world will arrive with the Olympic Games, planned to take place in Mexico City in 1968. The usual enormous interest in this event is already being increased by the controversy as to whether the Games ought to be held at an altitude of 7400 ft., and this controversy is likely to increase as the final date approaches. Whatever the answer, the form of strife witnessed here in 1968 should form a welcome contrast to that which has clouded the last few hundred years of Mexican history.

Scottish Agricultural Industries Ltd

by John Crozier

Scottish Agricultural Industries—ICI's Scottish subsidiary—was formed in December 1928 by ICI, and comprised six of the principal fertilizer manufacturers at that time in Scotland. All six companies were over 100 years old and all made sulphuric acid, superphosphate, and compound fertilizers based on superphosphate. In the main, the goods which they produced were sold direct to farmers, and between them the companies covered virtually every corner of Scotland. In addition to fertilizers they had many other interests, of which feeding stuffs was the most important. They dealt in grain, sold farm seeds, distilled tar, manufactured sulphate of ammonia, crushed oil seeds, and had many other agricultural subsidiary activities.

ICI acquired about 60% of the issued ordinary share capital, and so, right from its inception, SAI has been a subsidiary company of ICI and has enjoyed the benefits arising from such an association. There were various reasons why ICI—itsself only two years old at that stage—formed the new company. The press notice issued at the time indicated that the first objective was to contribute in a practical way towards farmers' continuing problems of reducing their costs. The second reason was to enable the new company to benefit from the scientific development associated with ICI and in particular with the manufacture of synthetic nitrogen fertilizers at Billingham. Another important reason was that ICI at that time was endeavouring to make up its mind how to market the fertilizers which were beginning to be produced in large quantities at Billingham, and was inclined to direct selling.

SAI's first Chairman was Sir Harry McGowan. He was succeeded by Lord Linlithgow, who resigned when he was appointed Viceroy of India. Chairmen since the war have included Lord Fleck, Mr. W. D. Scott and Mr. R. A. Banks.

SAI is a public company with an issued



Leith Works from the air

share capital of about £6m., including nearly £5m. of ordinary shares, of which ICI holds 62%, the remainder being held by 2000 other shareholders. Besides full-time SAI executives, the Board includes four ICI officials, Dr. J. M. Holm, Chairman of Nobel Division, Dr. P. W. Reynolds and Mr. J. B. Robertson of Agricultural Division, and Mr. J. S. Watkins of ICI (Ireland) Ltd. The Chairman of SAI is a member of the Agricultural Division Board.

SAI's turnover in 1964 was approximately £22m. This figure, however, includes many merchant goods such as cereals and merchant animal feeding stuffs. The value of the products actually manufactured by SAI is about two-thirds of the total turnover. The bulk of the goods handled by SAI is sold direct to farmers, but there is also an important and substantial tonnage of goods which is

sold to agricultural merchants and to other fertilizer manufacturers.

The Company's main interest is in fertilizers, of which compounds are the most important, and SAI occupies a dominant position in the Scottish market for this class of product. A high proportion of the fertilizers sold today is based on the raw materials ammonium phosphate and ammonium nitrate, both of which are manufactured by SAI, but there is still a market for the original types of compound produced by ICI and based on superphosphate. The Company also grinds and markets substantial tonnages of basic slag, a by-product of steel-making, and possesses three grinding plants in England. ICI acts as selling agent for SAI slag in England and Wales. Another important fertilizer product produced by SAI is a special form of ammonium phosphate sold under the trade name 'PhoSAI,' which is sold to other manufacturers and is easily incorporated to make the more concentrated fertilizers.



Discharging ryegrass seed at the Bin Reception Platform, Leith

The Company has three fertilizer manufacturing plants in Scotland. The principal one is at Leith, where sulphuric acid, phosphoric acid and nitric acid are manufactured and, with potassium chloride, used to produce a range of concentrated compound fertilizers containing roughly fifty plant food units. Although the Company has had fertilizer manufacturing equipment at Leith for over 100 years, and was one of the first to take up the superphosphate patent in the middle of last century, the present site is new, having been opened in 1956. The Company has invested approximately £6m. in the new fertilizer works at Leith, of which a particular feature is the new granulation plant, based on SAI research and known as the SAI Internal-Recycle Process. Although developed for the manufacture of SAI highly concentrated fertilizers, it is hoped that this process may have attrac-

tions for overseas buyers, and the processes have been patented. Already there has been much interest from abroad.

The factories at Aberdeen and Ayr are smaller, but at Aberdeen there are sulphuric acid and phosphoric acid plants producing compound fertilizers which serve the important agricultural area in the north-east of Scotland. The Company also operates a superphosphate and compound fertilizer plant at Ayr.

Feeding stuffs are manufactured at Leith, Glasgow and Aberdeen. SAI is one of the more important suppliers of blended animal feeding stuffs to Scottish farmers. There are three particular sections of animal feeding stuffs, each with important differences. Dairy foods for milk production account for about 40% of the business. Poultry foods, mainly for egg production but with an important subsidiary activity in the broiler business, account for another 40%; while the varied requirements of the pig farming industry account for the remainder. The Company

sells all of its feeding stuffs retail and enjoys a high reputation for quality. It has its own testing station for pig and poultry foods and to a modest extent is concerned in egg production, broiler production, and pig rearing. The feeding stuffs business is very much science-based today and remarkable strides have been made in the last decade, which have resulted in greatly improved food conversion ratios compared with those a few years ago. It is a very highly competitive business, but has one particular advantage compared with fertilizers in that there is an all-the-year-round demand for the goods. Because of this demand the feeding stuffs business fits in quite well with the retailing of fertilizers, still largely seasonal, and enables a retail selling organisation to be active all the year round.

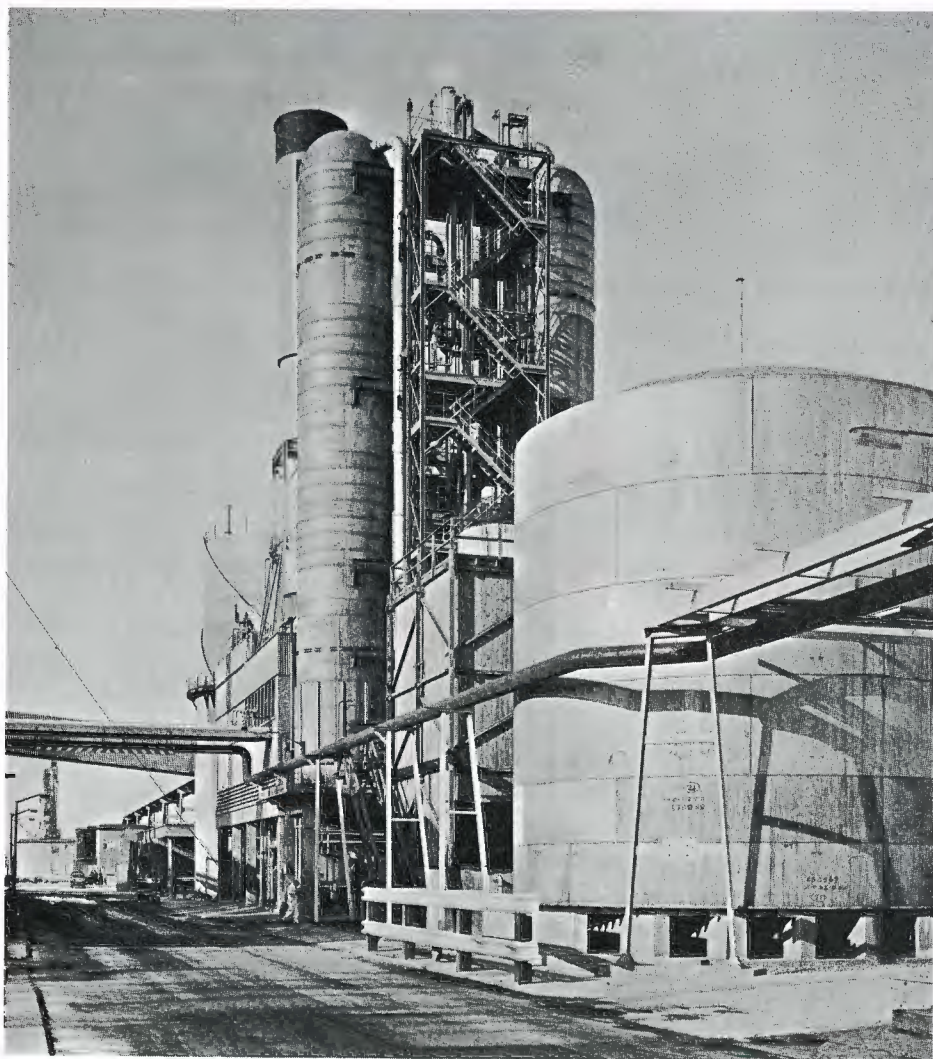
The principal feeding stuffs plant is at Glasgow. It is fully automated and although fairly small is one of the most modern in Scotland.

Farm seeds form the oldest part of the

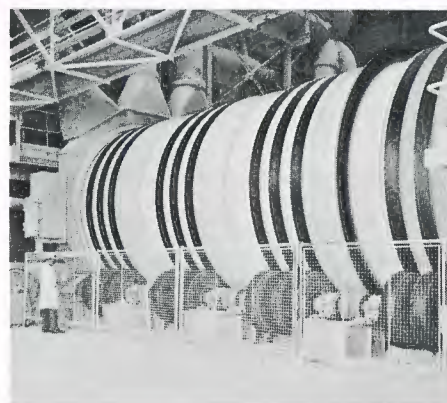


Proportioning unit at the new SAI seeds warehouse, showing hoppers, feeders, weighers and conveying system

SAI business. The main constituent company forming SAI in 1928 started in Edinburgh in the seeds business in 1777. Although turnover is relatively small in relation to fertilizers and feeding stuffs, nevertheless SAI is by far the largest seller of grass seeds in Scotland. This is a business which it is believed has much scope for expansion, and the Company has recently carried out a reorganisation of its seeds processing activities by concentration in a modern seed warehouse and mixing plant which adjoins the fertilizer plant at Leith. This plant incorporates an automatic proportioning and mixing unit to deal with the variety of complicated seed mixtures which are in demand today. In addition, SAI operates its own seed testing station under Government licence, along with demonstration and testing plots to examine the relative merits of existing varieties of grasses and the numerous new varieties which are being produced all over the world. Seeds are all sold direct to the user.



142 Nitric acid plant at Leith Fertilizer works



One of the two SAI-R granulators at Leith works

SAI acts as agents for many ICI products, notably 'Nitram,' 'Nitro-Chalk,' 'Agroxone,' 'Chloros' and the new bi-pyridyl weedkillers.

In common with most people who operate in the retail agricultural field, there is a substantial business in the buying and selling of farm produce, primarily barley, wheat and oats. SAI offers facilities for the drying, cleaning and storing of grain and does a large business with distillers, brewers, maltsters and flour millers, and, on occasion, engages in the export of barley to Europe.

A separate wholly owned subsidiary company—SAI Horticulture Ltd.—handles the specialised needs of the horticulturist and the amateur gardener.



The lorry driver offloads the bins by himself in a matter of minutes: he simply lets down the telescopic legs, then drives the lorry away—no bags to hump, no storage problems

are also responsible for the supervision of costed farms and for the organisation of demonstrations on those farms. This work is parallel to the fertilizer development activities of the ICI agricultural organisation in England and Wales, with whom the technical service works in close association. It is a vital link in the overall effort to improve farm profitability by the greater use of fertilizers.

SAI employs a total of about 1700 people, of whom 900 are payroll and the remainder salaried. Among the latter are approximately 100 graduates, mainly chemists, engineers and agronomists, and the Company in relation to its size, is one of the largest employers of graduate personnel in Scotland.

What of the future? Between 1946 and 1954 all SAI manufacturing units were modernised and it spent about £10m. in so doing, all of which money, or virtually all, being found from its own resources. The past few years have seen intense competition, particularly in fertilizers and feeding stuffs, but despite this the Company has maintained a reasonable share of an expanding market, albeit with smaller profit margins. SAI is long established, and although the Scottish market is relatively small, the modernisation process has enabled it to keep in step technically with the largest organisations in times of rapid change and development and in circumstances in which other manufacturers of comparable size have been finding it difficult so to do. Taking into consideration the latest range of highly concentrated fertilizers produced on the new plant at Leith, a first-class technical and production team and an improving selling organisation, SAI should be able to face the future with reasonable confidence in its ability to maintain and even perhaps improve its position in the market and to provide its shareholders with a good return on their capital investment.

It has its own sales organisation and the specialised manufacturing facilities required for this type of business.

Another wholly owned subsidiary is J. & J. Cunningham Ltd., whose head office is in London and whose main business is to import and merchant animal feeding stuffs ingredients for sale to country compounders.

Headquarters of SAI are in Edinburgh, but there are 15 area sales offices stretching from Wick in the North to Stranraer in the South, each in the charge of a district manager and with a retail sales force whose efforts are supported in each area by an agricultural development officer. Those offices and their staffs are grouped in three sales regions, each controlled by a regional sales manager, who is responsible for all sales whether wholesale or retail in his region, and for the various ancillary services such as grain processing, local storage and distribution, and frequently local feeding stuffs manufacture. There are nearly 100 sales representatives.

The SAI salesman calls regularly on his farmer customers and attends local agricultural markets, and the wide range of products handled by the Company enables him to present an integrated sales picture centred on the Company's principal product—fertilizers. Thus SAI seed mixtures contain the varieties and strains which respond best to fertilizers, and special dairy rations are formulated and

sold to supplement silage produced from grass grown from SAI seeds and SAI fertilizers. Likewise cereal seeds are sold on the same basis. There are various important services which have arisen as a consequence of the direct selling which is the basis of SAI's business. For several years now the Company has operated and developed a fertilizer spreading service which is in increasing demand, particularly in the grassland areas. In some districts as much as 55% of the fertilizers sold are spread. For a small extra charge fertilizer is delivered in weatherproof two-ton bins, readily mounted on lorry platforms, and with telescopic legs (an SAI patent). Those bins can easily be set down on the field for rapid loading of the four-wheel-drive spreaders specially designed for the job by SAI engineers. Under reasonable weather conditions they can spread very large areas daily and, which is very important, spread evenly.

The Company also operates a farm-to-farm cereal seed dressing service and has done so for very many years. Mobile machines clean and size a farmer's cereal seed and apply the requisite seed dressing as a protection against fungus diseases.

Mention has already been made of the staff of agricultural development officers who work in close association with the sales organisation. In addition to the day-to-day advisory propaganda service work, the members of this organisation

PICKING PEACHES: ITALY by *S. Duncan* (*Agricultural Division*)

